

t65_rlvect_2

(TMK4XGrJX9GZSVWmUt47WKkCGuXe43MdPQ4)

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Let $v2_struct.0 : \iota \Rightarrow o$ be given. Let $v13_algstr.0 : \iota \Rightarrow o$ be given. Let $v2_rlvect.1 : \iota \Rightarrow o$ be given. Let $v3_rlvect.1 : \iota \Rightarrow o$ be given. Let $v4_rlvect.1 : \iota \Rightarrow o$ be given. Let $v5_rlvect.1 : \iota \Rightarrow o$ be given. Let $v6_rlvect.1 : \iota \Rightarrow o$ be given. Let $v7_rlvect.1 : \iota \Rightarrow o$ be given. Let $v8_rlvect.1 : \iota \Rightarrow o$ be given. Let $l1_rlvect.1 : \iota \Rightarrow o$ be given. Let $m1_rlvect.2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_algstr.0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_rlvect.2 : \iota \Rightarrow \iota$ be given. Let $k1_rlvect.2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_rlvect.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_algstr.0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_rlvect.2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rlvect.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_rlvect.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole.0 : \iota \Rightarrow o$ be given. Let $l1_algstr.0 : \iota \Rightarrow o$ be given. Let $u1_struct.0 : \iota \Rightarrow o$ be given. Let $k1_algstr.0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_rlvect.1 : \iota \Rightarrow o$ be given. Let $l1_struct.0 : \iota \Rightarrow o$ be given. Let $l2_algstr.0 : \iota \Rightarrow o$ be given. Let $l2_struct.0 : \iota \Rightarrow o$ be given. Let $r1_struct.0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct.0 X0) \wedge ((v13_algstr.0 X0) \wedge ((v2_rlvect.1 \\ & X0) \wedge ((v3_rlvect.1 X0) \wedge ((v4_rlvect.1 X0) \wedge ((v5_rlvect.1 X0) \wedge \\ & ((v6_rlvect.1 X0) \wedge ((v7_rlvect.1 X0) \wedge ((v8_rlvect.1 X0) \wedge (l1_rlvect.1 \\ & X0)))))))))) \Rightarrow (\forall X1.(m1_rlvect.2 X1 X0) \Rightarrow (k4_algstr.0 (\\ & k16_rlvect.2 X0) (k1_rlvect.2 (k16_rlvect.2 X0) X1) = k9_rlvect.2 \\ & X0 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct.0 X0) \wedge ((v13_algstr.0 X0) \wedge ((v2_rlvect.1 \\ & X0) \wedge ((v3_rlvect.1 X0) \wedge ((v4_rlvect.1 X0) \wedge ((v5_rlvect.1 X0) \wedge \\ & ((v6_rlvect.1 X0) \wedge ((v7_rlvect.1 X0) \wedge ((v8_rlvect.1 X0) \wedge (l1_rlvect.1 \\ & X0)))))))))) \Rightarrow (\forall X1.(m1_rlvect.2 X1 X0) \Rightarrow (\forall X2.(m1_rlvect.2 \\ & X2 X0) \Rightarrow (k3_rlvect.1 (k16_rlvect.2 X0) (k1_rlvect.2 (k16_rlvect.2 \\ & X0) X1) (k1_rlvect.2 (k16_rlvect.2 X0) X2) = k7_rlvect.2 X0 X1 X2))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1.(m1_subset.1 X0 X1) \Rightarrow ((v1_xboole.0 X1) \vee (X0 \in X1)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v2_rlvect_1 X0)\wedge(l1_algstr_0 X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(k3_rlvect_1 X0 X1 X2 = k1_algstr_0 X0 X1 X2) \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v5_rlvect_1 X0)\wedge((v6_rlvect_1 X0)\wedge((v7_rlvect_1 X0)\wedge((v8_rlvect_1 X0)\wedge(l1_rlvect_1 X0))))))))))\Rightarrow((v13_algstr_0 (k16_rlvect_2 X0))\wedge((v2_rlvect_1 (k16_rlvect_2 X0))\wedge((v3_rlvect_1 (k16_rlvect_2 X0))\wedge((v4_rlvect_1 (k16_rlvect_2 X0))\wedge((v5_rlvect_1 (k16_rlvect_2 X0))\wedge((v6_rlvect_1 (k16_rlvect_2 X0))\wedge((v7_rlvect_1 (k16_rlvect_2 X0))\wedge((v8_rlvect_1 (k16_rlvect_2 X0)))))))))) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v5_rlvect_1 X0)\wedge((v6_rlvect_1 X0)\wedge((v7_rlvect_1 X0)\wedge((v8_rlvect_1 X0)\wedge(l1_rlvect_1 X0))))))))))\Rightarrow((\neg v2_struct_0 (k16_rlvect_2 X0))\wedge(v1_rlvect_1 (k16_rlvect_2 X0))) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_struct_0 X0))\Rightarrow(\neg v1_xboole_0 (u1_struct_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l1_algstr_0 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(l1_rlvect_1 X0)\Rightarrow(l2_algstr_0 X0) \quad (9)$$

Assume the following.

$$\forall X0.(l1_algstr_0 X0)\Rightarrow(l1_struct_0 X0) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v5_rlvect_1 X0)\wedge((v6_rlvect_1 X0)\wedge((v7_rlvect_1 X0)\wedge((v8_rlvect_1 X0)\wedge(l1_rlvect_1 X0))))))))))\wedge(m1_rlvect_2 X1 X0))\Rightarrow(m1_rlvect_2 (k9_rlvect_2 X0 X1) X0) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((l2_algstr_0 X0)\wedge(m1_subset_1 X1 (u1_struct_0 X0)))\Rightarrow(m1_subset_1 (k4_algstr_0 X0 X1) (u1_struct_0 X0)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(l1_struct_0 X0)\Rightarrow(m1_subset_1 (k1_rlvect_2 X0 X1) (u1_struct_0 X0)) \quad (13)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v5_rlvect_1 X0)\wedge((v6_rlvect_1 X0)\wedge((v7_rlvect_1 X0)\wedge((v8_rlvect_1 X0)\wedge(l1_rlvect_1 X0))))))))))\Rightarrow(l1_rlvect_1 (k16_rlvect_2 X0)) \quad (14)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0)\Rightarrow(\forall X1.(r1_struct_0 X0 X1)\Leftrightarrow (X1 \in u1_struct_0 X0)) \quad (15)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0)\Rightarrow(\forall X1.(r1_struct_0 X0 X1)\Rightarrow (k1_rlvect_2 X0 X1 = X1)) \quad (16)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v5_rlvect_1 X0)\wedge((v6_rlvect_1 X0)\wedge((v7_rlvect_1 X0)\wedge((v8_rlvect_1 X0)\wedge(l1_rlvect_1 X0))))))))))\Rightarrow(\forall X1.(m1_rlvect_2 X1 X0)\Rightarrow(\forall X2.(m1_rlvect_2 X2 X0)\Rightarrow(k10_rlvect_2 X0 X1 X2 = k7_rlvect_2 X0 X1 (k9_rlvect_2 X0 X2)))) \quad (17)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow(k5_algstr_0 X0 X1 X2 = k1_algstr_0 X0 X1 (k4_algstr_0 X0 X2)))) \quad (18)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v5_rlvect_1 X0)\wedge((v6_rlvect_1 X0)\wedge((v7_rlvect_1 X0)\wedge((v8_rlvect_1 X0)\wedge(l1_rlvect_1 X0))))))))))\Rightarrow(\forall X1.(m1_rlvect_2 X1 X0)\Rightarrow(\forall X2.(m1_rlvect_2 X2 X0)\Rightarrow(k5_algstr_0 (k16_rlvect_2 X0) (k1_rlvect_2 (k16_rlvect_2 X0) X1) (k1_rlvect_2 (k16_rlvect_2 X0) X2) = k10_rlvect_2 X0 X1 X2)))$$